

Excel interview questions and answers

1. Basic Excel Functions

Q1: How do you use `VLOOKUP`? What are its limitations?

Answer:

- **Syntax:** `=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])`
- **Use Case:** Find a value in a table using a unique identifier (e.g., product ID).

```
=VLOOKUP("A101", A2:D100, 3, FALSE) 'Returns value from column 3 where "A101" is found.
```

- **Limitations:**
 - Only searches left-to-right.
 - Requires the lookup column to be the first column in the table.
 - Returns the first match (not all matches).
- **Alternative:** Use `XLOOKUP` or `INDEX-MATCH`.

Q2: Explain the difference between `SUMIF` and `SUMIFS`.

Answer:

- `SUMIF`: Sums values based on **one condition**.

```
=SUMIF(Region, "East", Sales) 'Sum sales for the East region.
```

- `SUMIFS`: Sums values based on **multiple conditions**.

```
=SUMIFS(Sales, Region, "East", Product, "Widget") 'Sum sales for East region + Widget product.
```

2. Advanced Lookups & Data Manipulation

Q3: How does `INDEX-MATCH` work? Why is it better than `VLOOKUP`?

Answer:

- **Syntax:**

```
=INDEX(return_range, MATCH(lookup_value, lookup_range, 0))
```

- **Example:**

```
=INDEX(C2:C100, MATCH("Widget", A2:A100, 0)) 'Finds "Widget" in column A and returns its price from column C.
```

- **Advantages:**
 - Searches left-to-right or right-to-left.

- Handles column insertions/deletions better.
- Faster with large datasets.

Q4: How would you extract unique values from a list?

Answer:

- Use the `UNIQUE` function (Excel 365):

```
=UNIQUE(A2:A100) 'Returns distinct values from the range.
```

- For older Excel versions:
 - **Remove Duplicates** (Data Tab) or use `Advanced Filter`.

3. PivotTables & Data Analysis

Q5: How do you create a PivotTable to summarize sales by region and product?

Answer:

1. Select the data range.
2. Go to **Insert > PivotTable**.
3. Drag "Region" to **Rows**, "Product" to **Columns**, and "Sales" to **Values** (as Sum).
4. Use **"Show Values As"** for % of total or YoY comparisons.

Q6: How do you handle dynamic data ranges in PivotTables?

Answer:

- Convert the data to an **Excel Table** (`Ctrl + T`). PivotTables linked to tables automatically expand with new data.

4. Data Cleaning & Transformation

Q7: How do you remove leading/trailing spaces or non-printable characters?

Answer:

- `TRIM`: Removes extra spaces.

```
=TRIM(A2)
```

- `CLEAN`: Removes non-printable ASCII characters.

```
=CLEAN(A2)
```

Q8: How would you split a full name into first and last names?

Answer:

- Use `LEFT`, `RIGHT`, `MID`, or **Text to Columns**:
 - **Text to Columns** (Data Tab): Split using delimiters like spaces.
 - Formula-based approach:

```
=LEFT(A2, FIND(" ", A2) - 1) 'First name  
=RIGHT(A2, LEN(A2) - FIND(" ", A2)) 'Last name
```

5. Advanced Formulas & Functions

Q9: How do you calculate the median of a filtered dataset?

Answer:

- Use `AGGREGATE` with function code `12` (median) and option `5` (ignore hidden rows):

```
=AGGREGATE(12, 5, Sales)
```

Q10: Explain the `IFERROR` vs. `IFNA` functions.

Answer:

- `IFERROR`: Catches all errors (e.g., `#N/A`, `#VALUE!`).

```
=IFERROR(VLOOKUP(...), "Not Found")
```

- `IFNA`: Catches only `#N/A` errors (safer for debugging).

```
=IFNA(VLOOKUP(...), "Not Found")
```

6. Power Query & Automation

Q11: How do you merge two tables in Power Query?

Answer:

1. Load both tables to Power Query.
2. Use **Merge Queries** (Home Tab) > Select join type (e.g., Inner, Left Outer).
3. Expand the merged column to include required fields.

Q12: How would you automate a monthly report in Excel?

Answer:

- Use **Power Query** to import/transform data.
- Build a **PivotTable** or dashboard linked to the query.
- Use **VBA macros** to refresh data and export reports:

```
Sub RefreshReport()  
    ThisWorkbook.RefreshAll  
    Sheets("Summary").Copy  
    ActiveWorkbook.SaveAs "Monthly_Report_" & Format(Date, "mmmyy")  
End Sub
```

7. Scenario-Based Questions

Q13: How would you analyze sales trends over time?

Answer:

1. Clean and format the date column.
2. Create a PivotTable with **Dates** in Rows and **Sales** in Values.
3. Group dates by months/years.
4. Add a **PivotChart** (Line/Column) to visualize trends.

Q14: How do you handle duplicates in a dataset?

Answer:

- Use **Remove Duplicates** (Data Tab).
- For conditional checks, use:

```
=COUNTIF(A$2:A2, A2) > 1 'Returns TRUE if duplicate.
```

- Highlight duplicates using **Conditional Formatting**.

8. Optimization & Best Practices

Q15: How do you optimize Excel for large datasets?

Answer:

- Avoid volatile functions (`OFFSET`, `INDIRECT`, `TODAY`).
- Use **Excel Tables** for dynamic ranges.
- Replace formulas with values using **Paste Special**.
- Use Power Query/PivotTables instead of formulas for >100k rows.

9. Statistical Analysis

Q16: How do you calculate correlation between two variables?

Answer:

- Use `CORREL`:

```
=CORREL(Sales, Advertising_Spend)
```

Q17: How would you identify outliers in a dataset?

Answer:

- Use **Conditional Formatting** with a formula:

```
=ABS(A2 - AVERAGE(A$2:A$100)) > 3*STDEV(A$2:A$100)
```